

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

Bailey, Todd C.

App. No.:

10/666,527

GPAU:

1756

Filing Date: 09/18/2003

Examiner:

Unassigned

Dkt. No.:

PA51-22-02

Conf. No.:

5895

For: Imprint Lithography Templates Having Alignment Marks

INFORMATION DISCLOSURE STATEMENT

Mail Stop AMENDMENT Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

The following information is submitted in compliance with Applicants' duty of disclosure and pursuant to 37 C.F.R. § 1.56, § 1.97 and § 1.98. The undersigned brings the patents, publications, applications or other information identified in the attached:

 \boxtimes Form(s) PTO/SB/08A and/or PTO/SB/08B or PTO/1449

 \Box Other:

to the Examiner's attention in the above-identified application. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

This Information Disclosure Statement is being filed:

before the mailing date of a first Office action on the merits or before the mailing date of a first Office action after the filing of a request for continued examination under § 1.114. Therefore, no fee is believed required.

Applicants do not believe that any additional fees are due, but if the Commissioner believes additional fees are/due, the

Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 502650.

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Signed:__

Typed Name: Katrina Pr

Date:

9-16-05

Respectfully Submitted,

Kenneth C. Brooks,

Req. No. 38,393

IP Counsel

Legal Department

Molecular Imprints, Inc.

P.O. Box 81536

Austin, TX 78758-1536

(512) 339-7760

(512) 491-8918 (fax)

PTO/SB/08A (08-03)

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	FORMATIOI			APPLICATION NUMBER	10/666,527		
3	MICHICINI	DIAFFEN		FILING DATE	09/18/2003		
(us	se as many shee	ets as necessa	<i>ny)</i>	FIRST NAMED INVENTOR	Bailey et al.		
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Sheet	1	of	11	Examiner Name	Unassigned		
				Attorney Docket Number	PA51-22-02		

		<u> </u>		U.S. PATENT DOCUMEN	TS	
Examiner Initials*	Cite No.1	U.S. Patent Do	Coument Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	D1	4,959,252		Bonnebat et al.	9/25/1990	
	D2	5,218,193		Miyatake	6/8/1993	
	D3	5,259,926		Kuwabara et al.	9/9/1993	
	D4	5,348,616		Hartman et al.	9/20/1994	
	D5	5,355,219		Araki et al.	10/11/1994	
	D6	5,512,131		Kumar et al.	4/30/1996	
	D7	5,545,367		Bae et al.	8/13/1996	
	D8	5,952,127		Yamanaka	9/14/1999	
	D9	6,051,345		Huang	4/18/2000	
	D10	6,137,562		Masuyuki et al.	10/24/2000	
	D11	6,420,892	B1	Krivy et al.	7/16/2002	
	D12	2004/0112861	A1	Choi et al.	6/17/2004	
	D13	2003/0092261	A1	Kondo et al.	5/15/2003	
	D14	2003/0179354	A1	Araki et al.	9/25/2003	
	D15	2002/0150398	A1	Choi et al.	10/17/2002	
	D16	2004/0146792	A1	Nimmakayala et al.	7/29/2004	
	D17	4,201,800		Alcorn et al.	5/6/1980	

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	U.S. PATENT DOCUMENTS									
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	D18	6,770,852	B1	Stegner	8/3/2004					
	D19	2003/0081193		White et al.	5/1/2003					
	D20	2004/0150129		Hougham et al.	8/5/2004					
	D21	2004/0202865		Homola et al.	10/14/2004					
	D22	5,937,758		Maracas et al.	8/17/1999					
	D23	5,726,548		Chiba et al.	3/10/1998					
	D24	2002/0069525	A1	Hada et al.	6/13/2002					
	D25	5,508,527		Kuroda et al.	4/16/1996					
	D26	5,876,550		Feygin et al.	3/2/1999					
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	D33	6,580,505		Bareket	6/17/2003					
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				Attorney Docket Number	PA51-22-02	

				U.S. PATENT DOCUMEN	TS	
Examiner Initials*	Cite No.1	U.S. Patent Do	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	D35	2004/0189994	A1	Sreenivasan et al.	9/30/2004	
	D36	6,819,426	B2	Sezginer et al.	11/16/2004	
	D37	2004/0223131	A1 ,	Choi et al.	11/11/2004	
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	D41	5,956,216		Chou	9/21/1999	
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	D43	2005/0006343	A1	Choi et al.	1/13/2005	
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,	D48	6,919,152	B2	Sreenivasan et al.	7/19/2005	
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	D50	6,153,886		Hagiwara et al.	11/28/2000	
	D51	5,853,446		Carre et al.	12/29/1998	

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				U.S. PATENT DOCUMEN	TS	
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	D52	6,251,207	B1	Schultz et al.	6/26/2001	
	D53	5,331,371		Mori et al.	7/19/1994	
	D54	6,929,762	B2	Rubin	8/16/2005	
	D55	6,849,558	B2	Schaper	2/1/2005	
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				FOREIGN	PATENT DOCUMENTS			
Examiner Initials*	Cite No.1	Office 3	Foreign Patent Docum	nentBG Kind Code ⁵ (if knBown)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
	D56	wo	87/02935		Long et al.	5/21/1987		
	D57	JP	1-196749		Matsumoto et al.	8/8/1989		
	D58	JP	02192045		Mineo et al.	7/27/1990		
	D59	wo	01/90816		Heidari	11/29/2001		
	D60	wo	02/22916		Pettersson et al.	3/21/2002		
	D61	JP	55-88332		Okabe	7/4/1980		
	D62	EP	1460738	A2	Gimkiewicz et al.	9/22/2004		
	D63	JР	61-40845		Matsuo et al.	2/27/1986		
	D64	JP	2-248480		Yoneda et al.	10/4/1990		
\	D65	JP	3-90345		Nobuyoshi et al.	4/16/1991		
	D66	JP	9-278490		Toru et al.	10/28/1997		
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				, . , <u>.</u> ,	Attorney Docket Number	PA51-22-02

OTHER PRI	OR ART	NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
	D67	ARAI ET AL., Development of a New Parallel Manipulator with Fixed Linear Actuator, In Proceedings of Japan/USA Symposium on Flexible Automation, Vol. 1, ASME, New York, pp. 145–149 1/1/1996	
	D68	WILLIAMS ET AL., Six Degree of Freedom Mag-Lev Stage Development, SPIE Vol. 3051, 856-867 1/1/1997	
	D69	RONG ET AL., Design and Analysis of Flexure-Hinge Mechanism Used in Micro-Positioning Stages, ASME Vol. 2, pp.979-985 1/1/1994	
	D70	FEYNMAN, There's Plenty of Room at the Bottom, 12/1/1959	
	D71	MANSKY ET AL., Large-Area Domain Alignment in Block Copolymer Thin Films Using Electric Fields, Macromolecules. Vol. 31. No. 13, pp.4399 - 4401 6/9/1998	
	D72	MARTIN ET AL., Predication of Fabrication Distortions in Step and Flash Imprint Lithography Templates, Journal of Vacuum Science Technology B 20(6), pp. 2891-2895 11/1/2002	
••••	D73	WHITE ET AL., Novel Alignment System for Imprint Lithography, J. Vac. Sci. Technol. B 18(6), pp. 3552 - 3556 11/1/2000	
	D74	UCHIDA ET AL., A Mask-to-Wafer Alignment and Gap Setting Method for X-ray Lithography Using Gratings, J. Vac. Sci. Technol. B 9 (6), pp. 3202 - 3206 11/1/1991	
	D75	Abstract of Japanese Patent 55-88332, 4/14/2004	

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Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Т
	D76	Abstract of Japanese Patent 02-92603, 8/12/2004	
	D77	Abstract of Japanese Patent 02-24848, 1/26/1990	
	D78	SOWAH, Diamond used to Break the Mould, Retrieved 9/2/2003 from URL: http://www.electronictimes.com/story/OEG20020918S0003 9/18/2002	
	D79	ARMITAGE ET AL., Analysis of Overlay Distortion Patterns, SPIE vol. 921 Integrated Circuit Metrology, Inspection, and Process Control II (1988) 1/1/1988	
	D80	CHEN ET AL., Adaptive Alignment of Photomasks for Overlay Placement, Journal of Vacuum Science. B 20(6), pp. 3099-3105 11/1/2002	
	D81	SCHNEIDER ET AL., The Wave-Printer: Towards Large-Area, Multilayer Microcontact-Printing, Proc. Of 4th euspen International Conference, Glasgos, Scotland (UK) 5/1/2004	
	D82	APPLICATION NO. 10/858,179, naming Inventors Choi et al., entitled Compliant Device for Nano-scale Manufacturing, filed 6/1/2004	
	D83	APPLICATION NO. 10/858,100, naming Inventors Choi et al., entitled Method and System to Control Movement of a Body for Nano-Scale Manufacturing, filed 6/1/2004	
	D84	APPLICATION NO. 10/827,118, naming Inventors Watts et al., entitled A Method of Forming a Deep-Featured Template Employed in Imprint Lithography, filed 4/19/2004	

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Substitute for form 1449A/PTO				Comple	ete if Known
	ORMATION			APPLICATION NUMBER	10/666,527
317	ALEMENT D	T AFFLIO		FILING DATE	09/18/2003
(use	as many sheets	s as necessary	<i>)</i>	FIRST NAMED INVENTOR	Bailey et al.
				Group Art Unit	1756
Sheet	8	of	11	Examiner Name	Unassigned
	<u> </u>			Attorney Docket Number	PA51-22-02

OTHER PRI	OR ART	NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
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	D85	APPLICATION NO. 10/999,898, naming Inventors Cherala et al., entitled System for Magnification and Distortion Correction during Nano-Scale Manufacturing, filed 11/30/2004	
	D86	APPLICATION NO. 11/000,331, naming Inventors Nimmakayala et al., entitled Interferometric Analysis for the Manufacture of Nano-Scale Devices, filed 11/30/2004	
	D87	APPLICATION NO. 11/000,321, naming Inventors Nimmakayala et al., entitled Interferometric Analysis Method for the Manufacture of Nano-Scale Devices, filed 11/30/2004	
	D88	DENG ET AL., Simulation of Exposure and Alignment for Nano-imprint Lithography, Proc. SPIE, vol. 4688-93, p. 842-849 1/1/2002	
	D89	DENG ET AL., Rigorous Electromagnetic Simulation Applied to Alignment Systems, Proc. SPIE, vol. 4346-164, p. 1533-1540 1/1/2001	
	D90	APPLICATION NO. 11/143,076, naming Inventors Cherala et al., entitled System and Method for Improvement of Alignment and Overlay for Microlithography, filed 6/2/2005	
	D91	APPLICATION NO. 11/142,808, naming Inventors Cherala et al., entitled System for Varying Dimensions of a Substrate during Nano-Scale Manufacturing, filed 6/1/2005	
	D92	APPLICATION NO. 11/142,834, naming Inventors Cherala et al., entitled Method of Varying Dimensions of a Substrate during Nano-Scale Manufacturing, filed 6/1/2005	
	D93	APPLICATION NO. 11/142,838, naming Inventors Choi et al., entitled Compliant Device for Nano-Scale Manufacturing, filed 6/1/2005	

Examiner	Date	
Signature	Considered	

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Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached.

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Substitut	te for fo	rm 1449A/P	ТО		Complete if Known		
			DISCLOSU Y APPLICA		APPLICATION NUMBER	10/666,527	
	SIAII	CIVICIAI D	APPLICA	414 I	FILING DATE	09/18/2003	
	(use as i	many sheets	as necessary))	FIRST NAMED INVENTOR	Bailey et al.	
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OTHER PRI	IOR ART -	NON PATENT LITERATURE DOCUMENTS	
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	D94	APPLICATION NO. 11/142,839, naming Inventors Cherala et al., entitled Apparatusa to Vary Dimensions of a Substrate during Nano-Scale Manufacturing, filed 6/1/2005	1
	D95	APPLICATION NO. 11/142,825, naming Inventors Choi et al., entitled Method and System to Control Movement of a Body for Nano-Scale Manufacturing, filed 6/1/2005	
	D96	Abstract of Japanese Patent 61-040845, 2/27/1986	
	D97	Abstract of Japanese Patent 02-248480, 10/4/1990	
	D98	Abstract of Japanese Patent 3-090345, 4/16/1991	
	D99	Abstract of Japanese Patent 09-278490, 10/28/1997	
	D100	Abstract of Japanese Patent 61-040845, 2/27/1986	
	D101	Abstract of Japanese Patent 02-248480, 10/4/1990	
514	D102	CHOI ET AL., Distortion and Overlay Performance of UV Step and Repeat Imprint Lithography, MNE Micro- and Nano-Engineering Conference 9/1/2004	

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	Substitute for				Complete if Known		
		ORMATION TEMENT B			APPLICATION NUMBER	10/666,527	
	317	II LINILINI D	I AFFEICA		FILING DATE	09/18/2003	
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	D103	GEHOSKI ET AL., Indium Tin Oxide Template Development for Step and Flash Imprint Lithgraphy, SPIE Microlithography Conference 2/1/2005	
	D104	DAUKSHER ET AL., Repair of Step and Flash Imprint Lithography Templates, J. Vac. Sci. Technol. B 22(6), pp. 3306-3311 11/1/2004	
	D105	NORDQUIST ET AL., Image Placement Issues for ITO-based Step and Flash Imprint Lithography Templates, J. Vac. Sci. Technol. B, pp. 695-701 3/1/2004	
:	D106	GEHOSKI ET AL., Evaluation of the Imprio 100 Step and Flash Imprint Lithography Tool, Proceedings of SPIE, vol. 5374, pp. 1006-1016 5/1/2004	
	D107	DAUKSHER ET AL., Step and Flash Imprint Lithography Template Characterization, from an Etch Perspective, J. Vac. Sci. Technol. B 21(6), pp. 2771-2776 11/1/2003	
	D108	RESNICK ET AL., Imprint Lithography: Lab Curiosity or the Real NGL?, SPIE Microlithography Conference 2/1/2003	
	D109	MANCINI ET AL., Analysis of Critical Dimension Uniformity for Step and Flash Imprint Lithography, SPIE Microlithography Conference 2/1/2003	
	D110	MANCINI ET AL., Hydrogen Silsesquioxane for Direct Electron-Beam Patterning of Step and Flash Imprint Lithography Templates, J. Vac. Sci. Technol. B 20(6), pp. 2896-2901 11/1/2002	
	D111	DAUKSHER ET AL., Characterization of and Imprint Results Using Indium Tin Oxide-Based Step and Flash Imprint Lithography Templates, J. Vac. Sci. Technol. B 20(6), pp. 2857-2861 11/1/2002	

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(us	e as many sheets	s as necessary	<i>(</i>)	FIRST NAMED INVENTOR	Bailey et al.		
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	D112	NORDQUIST ET AL.Q, Critical Dimension and Image Placement Issues for Step and Flash Imprint Lithography Templates, 22nd Annual BACUS Symposium on Photomask Technology, Monterey, CA 9/1/2002						
	D113	BAILEY ET AL., Template Fabrication Schemes for Step and Flash Imprint Lithography, Microelectronic Engineering, 61-62, pp. 461-467 1/1/2002						
	D114	RESNICK ET AL., High Resolution Templates for Step and Flash Imprint Lithography, SPIE Microlithography Conference 2/1/2002						
	D115	RESNICK ET AL., New Methods for Fabricating Step and Flash Imprint Lithography Templates, NIST-SPIE Conference on Nanotechnology 9/1/2001						
±1-3-1-1	D116	CHOI ET AL., Layer-to-Layer Alignment for Step and Flash Imprint Lithography, SPIE's 26th Intl. Symp. Microlithography: Emerging Lithographic Technologies, Santa Clara, CA 3/1/2001						
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